







# Nortica®

A Biological Agent for the Protection of Plant Roots Against Plant Parasitic Nematodes on Turf, Lawns, Sod Farms, and Golf Courses (Greens, Tees, Fairways and Roughs)

Active Ingredient:  
*Bacillus firmus* (strain I-1582)\* ..... 5%  
Other Ingredients: ..... 95%  
Total: ..... 100%

\* Contains a minimum of  $3 \times 10^9$  cfu/gram

EPA Reg. No. 432-1512

EPA Est. No. 264-MO-003

## KEEP OUT OF REACH OF CHILDREN CAUTION

### PRECAUTIONARY STATEMENTS

#### Hazards To Humans And Domestic Animals

**Caution:** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours  
A Day 1-800-334-7577

For PRODUCT USE Information Call 1-800-331-2867

### FIRST AID

If in eyes:	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
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For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577.  
Have the product container or label with you when calling a poison control center or doctor or going for treatment.

Net Contents  
**35 Pounds**  
**80043376**  
80040121B 091027B



Produced for:  
**Bayer Environmental Science**  
A Division of Bayer CropScience LP  
2 T. W. Alexander Drive  
Research Triangle Park, NC 27709  
Product of Mexico

**BACKED**  
by **BAYER™**

## **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- waterproof gloves
- shoes plus socks
- dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### **Engineering Controls**

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment break-down.

### **Environmental Hazards**

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash waters or rinsate.

**IMPORTANT:** Read the entire label before using this product.

## **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

### **Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry intervals (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is:

- Coveralls
- Waterproof gloves
- Shoes plus socks
- Dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95

## Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried.

## GENERAL INFORMATION

NORTICA® suppresses nematode populations through the activity of *Bacillus firmus*. As a result of this biological protection, a vigorous root system is established by the plant, which often results in more uniform foliage.

Applying NORTICA during growth will cause a reduction in nematode populations in the soil. NORTICA does not control other pests and pathogens. Control of other soil-borne pathogens by other means (such as soil fumigants) is highly recommended.

## COMPATIBILITY

**DO NOT** mix NORTICA with other chemicals or fertilizers during application without first contacting a local Bayer representative.

**DO NOT** apply NORTICA for a month after formaldehyde application. Do not apply within two weeks of a fumigant application. Do not combine NORTICA in the spray tank with pesticides, surfactants or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective and non-injurious under your use conditions.

NORTICA is compatible with many commonly used pesticides, fertilizers, adjuvants and surfactants but has not been fully evaluated with all of these. To ensure compatibility of tank-mix combinations they should be evaluated prior to use, as follows: Using a suitable container add proportional amounts of product to water. Add wettable powders first, followed by water dispersible granules, then by liquid flowables and lastly, emulsifiable concentrates. Mix thoroughly and let stand for at least five minutes. If the combination stays mixed or can be remixed, it is physically compatible. Test the combination on a small portion of the target to be treated to ensure that a phytotoxic response will not occur as a result of application. Do not add products which lower the spray tank acidity below pH 5. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

## APPLICATION INSTRUCTIONS

NORTICA is suitable for application by spraying, drenching, or by drip irrigation. Optimal results are obtained by pre-plant applications (from 2-7 days prior to planting) and immediately irrigating after application to a minimum of 3-4 inches. If product is applied prior to planting, maintain moist soil with daily irrigation until planting.

NORTICA must be applied to the entire volume of soil when moist.

It is preferable, to apply NORTICA with irrigation after foliar or drench treatment.

Apply NORTICA at the beginning of the irrigation cycle to enable the remainder of the irrigation water to incorporate NORTICA throughout the root zone.

Apply NORTICA as a drench, using conventional equipment, to the root zone. Following drenching, the treated area must be irrigated with adequate water to moisten the entire root



# Nortica<sup>®</sup>

zone. This applies to post-plant applications of NORTICA and so that it will not cause damage to the plant stand.

## **Preparation of NORTICA suspension**

Add NORTICA to water at a minimum ratio of 1 part NORTICA to 5 parts water and maintain continuous agitation.

### **1.Drenching**

Preparation of suspension: Add water to NORTICA in the ratio of 2 lbs. NORTICA to a minimum of 1 gallon of water and stir constantly.

Calculation of the NORTICA dose per dripper: Divide the recommended NORTICA rate per acre by the number of dripper lines per acre.

Drenching: Drench around the dripper with the use of a measuring cup or measuring syringe.

### **2.Spray applications**

Apply NORTICA through most standard spray nozzles. Do not exceed a 20% concentration of the suspension (approximately 150 lbs. NORTICA per 100 gallons water). The NORTICA suspension has been evaluated for phytotoxicity on a range of turfgrasses such as creeping bentgrass, common and ultra-dwarf bermudagrass and no phytotoxicity has been observed. However, due to the number of species and cultivars of turfgrass, it is impossible to test every one for tolerance to NORTICA. The professional user should determine if NORTICA could be used safely prior to commercial use. Test the prescribed rates on a small area for phytotoxicity prior to widespread use. Before using NORTICA in tank mixture with other products and adjuvants, test the mixture on a small area for phytotoxicity prior to widespread use. Factors affecting turf safety are temperature, humidity and other environmental factors. A 5% concentration has been found to be safe. After application of NORTICA, irrigate to remove product from foliage and to ensure it reaches the soil.

NORTICA may be applied to turf by foliar spray.

Apply spray solution by diluting NORTICA suspension with water to 5% w/w.

Agitate the solution and apply directly to the soil or turf. Continue irrigation to wet the upper 4 inches of soil.

**New Turf Grow-Ins:** Optimal results are obtained by making the first application 2 to 7 days prior to seeding, sprigging, laying sod or at the time of seeding, sprigging or sodding. Maintain soil moisture until seeds, sprigs or sod is installed.

**Warm Season Turf:** Optimal results are obtained by making the first application before the first flush of roots.

Pests Controlled	Rate
Cyst nematode Lance nematode Lesion nematode Root-knot nematode Sheath nematode Spiral nematode Sting nematode Stunt nematode	30-100 lbs/acre 0.7 – 2.3 lbs (10 – 30 oz)/1000 sq ft
<b>Applications</b> Make applications every 3 months as necessary and irrigate to depth of 4 inches.	

After application of NORTICA, irrigate to wash product from foliage and to ensure it reaches the soil.

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal.  
**PESTICIDE STORAGE:** Store in cool, dry conditions in original container only out of reach of children.  
**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.  
**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**IMPORTANT: READ BEFORE USE**

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.  
By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.  
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